

TITLE OF THE INVENTION

CONTENTS DISTRIBUTING APPARATUS

CROSS-REFERENCE TO RELATED APPLICATIONS

5 This application is based upon and claims the  
benefit of priority from the prior Japanese Patent  
Applications No. 11-309989, filed October 29, 1999; and  
No. 2000-017464, filed January 26, 2000, the entire  
contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

10 The present invention relates to a contents  
distributing apparatus that is connected to an  
information processing terminal and an output device  
via a network, and that transmits and prints out to the  
output device the contents of which printing has been  
15 reserved by means of the information processing  
terminal via the network.

Recently, with the spread of a digital camera,  
printing service for printing data acquired by the  
digital camera is becoming popular. In addition,  
20 service environment in which contents are provided to  
an information processing terminal user by utilizing a  
communication network is also becoming popular, and  
printing service via such communication network is  
provided. Such conventional printing service is  
25 classified into types as the followings:

(1) print data is brought into a print shop, and  
printing service is received;

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(2) contents are printed by network search of a multimedia terminal installed at shop or the like;

(3) specified information is printed from facsimile information service by means of a facsimile machine;

(4) printing service is received by a user's personal computer through Internet; and

(5) image data or the like that the user has brought is printed on the spot by means of a printing service exclusive machine installed at shop or the like.

In the above mentioned printing service types (1) to (5), any of information search place, printing place, print contents, printing medium, charge and the like is limited.

In addition, there is proposed a conventional printing and/or accounting system that is applicable to printing service utilizing a network. In such printing and/or accounting system, the accounting by departments or sections in a company is assumed, and print data such as the number of prints, the number of printing surfaces, printing time intervals, or toner or fonts required for printing is targeted for such accounting.

However, in the above printing service types (1) to (5), any of the information search place, printing place, print contents, printing medium, or charge is limited, and there have been problems (1) to (5) described below.

(1) Printing service in which an information search place is limited

In printing service such as multimedia terminal, an information search place is limited. Thus, there are many cases in which the user does not go to a place at which printing service is provided unless any substantial print request has been made. Therefore, a service provider that provides printing service needs to advertise the contents of printing services to the users. An advertisement cost associated with advertising activities occurs. As a result, types or quantity of services that can be provided are limited.

In addition, for the service provider that provides printing service, if an information search place is limited, there have occurred many cases in which only information search is performed, and printing service is not finally performed. Thus, the profitability of printing service has been greatly impinged due to a loss of the other user's opportunities caused by an increased search wait time.

(2) Printing service in which a printing place is limited

Internet information search service using a portable information processing terminal such as cellular telephone does not limit a place at which information is searched while one is moving. However, if one brings a printer, its size and weight are

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limited.

Further, there does not exist any printing service provider for a portable information processing terminal such as cellular telephone. Thus, one can not receive printing service for information searched while one is moving by holding a cellular phone or the like at a near plate.

(3) Print service in which print contents are limited

Mobile contents with high real-time properties are provided to a portable information terminal such as cellular telephone. However, image with a large amount of information and high visual properties is not acceptable because of limited terminal display screen size or communication infrastructure performance, and the limited contents are provided.

In addition, in a printing service exclusive machine that does not have an information search function via a network, only printing is provided in the range of predetermined contents, and limited types of the contents can be provided.

(4) Printing service in which a printing medium is limited

accordance with a printing medium that the user arbitrarily selects.

Examples of print media include plain papers, refills of a notebook, printed stickers, greeting cards, post cards, posters and the like, which differ from each other depending on printing size, material, mode and the like. Furthermore, a printing service which prints out website contents on such media as stickers, cards, or notebook refill surfaces — wherein both sides of the individual sheets are to be printed — does not exist.

(5) Printing service in which a printing service charge is limited

The charge of printing service in which contents distributed from a network is printed is not compatible with a fixed charge system at a print shop or the like.

The charge of printing service greatly depends on the contents charge provided, and the cost of the printing medium and the toner cost for color printing also greatly varies depending on contents. Further, in response to a case in which a plurality of contents are printed onto a single printing medium, it is required to establish a system for computing the charge in a printing service in which contents distributed a network are printed.

On the other hand, a printing and/or accounting system via a network assumes a system for accounting

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and computing the number of prints, the number of printing surfaces, printing time intervals, quantity of toner used, or fonts used based on print data, but comprises the following problems:

5           (1) the charge of contents with their high rate at a cost of utilizing printing service is not targeted for accounting:

          (2) a system for computing and accounting the printing cost per printing matter is not provided;

10           (3) a system for causing accounting upon the completion of printing per printing matter is not provided; and

          (4) an amount of data transferred to a printing service terminal is increased because of accounting  
15           based on print data.

#### BRIEF SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide contents distribution type printing service via a network in which there is no  
20           limitation to a place at which contents are requested and a place at which the contents printout are received.

According to the present invention, there is provided a contents distributing apparatus that is connected to an information processing terminal and an  
25           output device via a network, and that transmits and prints out to the output device the contents of which printing has been reserved by means of the information

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processing terminal via the network.

The contents distributing apparatus comprising:

storage means for storing reservation information  
on contents of which the information processing

5 terminal has provided an access to a printing  
reservation site of the network and has reserved  
printing, the reservation information being associated  
with user identification information on the information  
processing terminal; and

10 communication means for receiving user  
identification information transmitted from the output  
device, reading reservation information on contents  
corresponding to the received user identification  
information from the storage means, and transmitting  
15 the contents corresponding to the read reservation  
information to the output device.

According to the present invention, therefore,  
there can be provided printing service in which the  
reservation information on contents in which an  
20 information processing terminal including communication  
functions such as cellular telephone or PHS (personal  
handy-phone system) terminal has provided an access to  
the printing reservation site of the network, and has  
reserved printing can be stored to be associated with  
25 the user identification information; and the contents  
corresponding to the user identification information  
can be transmitted and printed out to the output device,

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and thus, a place at which printing of contents is reserved is separated from a place at which the contents are printed out.

5 In addition, site means for opening a printing reservation site at which printing of contents are reserved is provided in a network so that printing can be reserved smoothly.

10 Further, in the case where a balance relevant to contents printouts is stored corresponding to the user identification information on the information processing terminal, and the contents of which printing has been reserved are printed out, the print charge according to the contents printouts is subtracted from the balance. Thus, the user can settle the payment  
15 relevant to contents printouts easily, thus making it possible to promote utilization of contents.

20 In addition, there are provided an input device for inputting user identification information; a cash entry device for entering a cash; communication means for transmitting the inputted user identification information, and receiving the transmitted contents and print charge; and print means for, in the case where the received print charge is inputted from the cash entry device, printing the received contents. Thus,  
25 the user can settle the payment relevant to contents printouts easily, thus making it possible to promote utilization of contents.

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Further, in the case where a user registration site for newly registering a user is set at a printing reservation site, the information processing terminal accesses to the user registration site, and a user is newly registered, an amount of money for the corresponding bonus is stored in the user identification information on the newly registered information processing terminal. Thus, a privilege is provided to such newly membership registered user, thereby making it possible to promote utilization of printing service.

In the case where a prospect user input item for inputting another user who has introduced a new user is set at a printing reservation site, the information processing terminal accesses to the printing reservation site, and another user who has introduced a new user is inputted, an amount of money for the corresponding bonus is stored in user identification information on such another user. Thus, a privilege is provided to the user who has introduced such another user, thereby making it possible to promote utilization of printing service.

In the case where a questionnaire item for inputting answers to questions is set at a printing reservation site, and the answers to the questions are inputted at the printing reservation site by means of the information processing terminal, an amount of money

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for the corresponding bonus is stored in the user identification information on the information processing terminal at which such answers to questions have been inputted. Thus, a privilege is provided to the user who has answered such questions, thereby making it possible to promote utilization of printing service.

In the case where a specification item for specifying printing of advertisement contents is set at a printing reservation site, the information processing terminal accesses to the printing reservation site, and printing of such advertisement contents is specified, an amount of money for the corresponding bonus is stored in the user identification information on the information processing terminal. Thus, a privilege is provided to the user that has printed the advertisement contents, thereby making it possible to promote utilization of printing service.

Further, in the case where user attribute information corresponding to the user identification information is stored, limitation information on which printing reservation is limited by contents according to the user attribute information is stored, and the information processing terminal accesses to a printing reservation site, thereby reserving the printing of contents, the printing reservation is limited based on the user attribute information corresponding to the

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user identification information on the information processing terminal and the limitation information corresponding to contents. Thus, there can be provided printing service in which printing reservation can be limited according to the user attributes such as user's age or gender.

In the case where distribution limitation information on contents corresponding to output means is stored, and contents are transmitted to an output device, the distribution of contents to the output device is limited based on the distribution limitation information. Thus, there can be provided distribution limitation service for the contents that reflect preference of a party at which the output device is installed.

Further, in the case where user attribute information corresponding to the user identification information is stored, advertising conditions based on the user attribute information is stored corresponding to the advertisement contents put in contents, and the information processing terminal accesses to a printing reservation site, thereby reserving the printing of contents, the advertisement contents put in contents are determined based on the user attribute information and advertising conditions. Thus, there can be provided advertising service in which proper advertisement can be advertised according to the user

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attribute.

In the case where advertising conditions specified for an output device is stored corresponding to advertisement contents put in contents, and contents are transmitted to the output device, the advertisement contents put in contents are determined based on the advertising conditions. Thus, there can be provided advertising service in which the advertisement that reflects the preference of a party at which the output device is installed can be put in contents.

Further, the advertising limitation information specified for an output device is stored corresponding to advertisement contents put in contents, and contents are transmitted to the output device, the advertisement contents put in contents is limited base on the advertising limitation information. Thus, there can be provided advertising service in which the advertisement that reflects the preference of a party at which the output device is installed can be put in contents.

In the case where advertising limitation information specified for a contents provider is stored corresponding to the advertisement contents put in contents, and contents are transmitted to the output device, the advertisement contents put in contents are limited based on the advertising limitation information. Thus, there can be provided advertising service in which the advertisement that reflects the preference of

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the contents provider can be put in contents.

Further, in the case where user attribute information corresponding to the user identification information is stored, the advertising limitation information based on the user attribute information is stored corresponding to the advertisement contents put in contents, and the information processing terminal accesses to a printing reservation site, thereby reserving the printing of contents, the advertisement contents put in contents are limited based on the user attribute information and the advertising limitation information. Thus, there can be provided an advertising limitation service in which the advertisement put in contents can be limited according to the user attributes such as user's age or gender.

In the case where advertising period information is stored corresponding to the advertisement contents put in contents, and the contents are transmitted to an output device, the advertising relevant to the contents of the advertisement contents that exceeds the advertising period is limited based on the advertising period information. Thus, there can be provided more efficient advertising service in which the same advertisement can be prevented from being advertised for the same user at a short time.

Additional objects and advantages of the present invention will be set forth in the description which

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follows, and in part will be obvious from the description, or may be learned by practice of the present invention.

5 The objects and advantages of the present invention may be realized and obtained by means of the instrumentalities and combinations particularly pointed out hereinafter.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

10 The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate presently preferred embodiments of the present invention and, together with the general description given above and the detailed description of the preferred embodiments given below, serve to explain the principles of the present invention in which:

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FIG. 1 is a view showing a system configuration of a printing service system of an embodiment according to the present invention;

20 FIG. 2 is a view showing a schematic configuration of each control system of a portable terminal 3 and an information provider computer 4 shown in FIG. 1;

FIG. 3 is a view showing a schematic configuration of each control system of an advertisement site proprietor computer 5 and a print station 6 shown in

25 FIG. 1;

FIG. 4 is a view showing a schematic view of a control system of a portal site computer 2 shown in

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FIG. 1;

FIG. 5 is a block diagram depicting a configuration of essential portions of the portal site computer 2 shown in FIG. 1;

5        FIG. 6 is a block diagram depicting a configuration of essential portions of a portable terminal 3 shown in FIG. 1;

10        FIG. 7 is a block diagram depicting a configuration of essential portions of a print station 6 shown in FIG. 1;

FIG. 8 is a view showing a specific example of a utilization member file 2B stored in a storage device 26 shown in FIG. 5;

15        FIG. 9A is a view showing a specific example of a utilization reservation information file 2F stored in the storage device shown in FIG. 5;

FIG. 9B is a view showing a specific example of a printing service unit price file G stored in the storage device 26 shown in FIG. 5;

20        FIG. 10A is a view showing a specific example of a print format file 2H stored in the storage device 26 shown in FIG. 5;

25        FIG. 10B is a view showing a specific example of a contents history file 2I stored in the storage device 26 shown in FIG. 5;

FIG. 11 is a view showing a specific example of a user history file 2K stored in the storage device shown

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in FIG. 5;

FIG. 12 is a view showing a specific example of a contents user history file 2L stored in the storage device 26 shown in FIG. 5;

5           FIG. 13 is a view showing a specific example of an advertising history file 2M stored in the storage device 26 shown in FIG. 5;

10           FIG. 14 is a view showing a specific example of an advertisement contents file 2O stored in the storage device 26 shown in FIG. 5;

FIG. 15A is a view showing a portal site menu screen displayed at the portable terminal 3 shown in FIG. 6;

15           FIG. 15B to FIG. 15D are views each showing a transition state of a member registration screen;

20           FIG. 16A to FIG. 16E are views showing a variety of screens displayed at the portable terminal 3, wherein FIG. 16A is a view showing an information search screen, FIG. 16B is a view showing a utilization reservation check screen, FIG. 16C is a view showing a print format selection screen, FIG. 16D is a view showing a printing reservation check screen, and FIG. 16E is a view showing a charge guidance mail screen;

25           FIG. 17A and FIG. 17B are views each showing a transition state of a menu screen displayed at a print station 6 shown in FIG. 7;

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FIG. 17C is a view showing a screen for displaying a purchased amount of money;

FIG. 18A is a view showing a contents printing screen displayed at the print station 6 shown in  
5 FIG. 7;

FIG. 18B is a view showing an advertisement coupon guidance screen;

FIG. 19 is a view showing a specific example of conversion processing of a contents printing medium  
10 executed during utilization reservation information print processing of the print station 6 shown in FIG. 7;

FIG. 20 is a flow chart showing member registration processing executed at the portable  
15 terminal 3 shown in FIG. 6;

FIG. 21 is a flow chart showing a part of the member registration processing executed by the portal site computer 2 shown in FIG. 5;

FIG. 22 is a flow chart showing the member registration processing following that shown in  
20 FIG. 21;

FIG. 23 is a flow chart showing a part of utilization reservation registration processing executed at the portable terminal 3 shown in FIG. 6;

FIG. 24 is a flow chart showing a utilization reservation registration processing following that  
25 shown in FIG. 23;

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FIG. 25 is a flow chart showing a user authentication processing executed by the portal site computer 2 shown in FIG. 5;

5       FIG. 26 is a flow chart showing a contents utilization guidance processing executed by an information provider computer 4 shown in FIG. 1;

10       FIG. 27 is a flow chart showing a part of utilization reservation information acceptance processing executed by the portal site computer shown in FIG. 5;

FIG. 28 is a flow chart showing a utilization reservation information acceptance processing following that shown in FIG. 27;

15       FIG. 29 is a flow chart showing a print contents generation processing executed by the portal site computer 2 shown in FIG. 5;

FIG. 30 is a flow chart showing a part of utilization reservation information print processing executed at the print station 6 shown in FIG. 7;

20       FIG. 31 is a flow chart showing utilization reservation information print processing following that shown in FIG. 30;

25       FIG. 32 is a flow chart showing a part of utilization reservation information print processing executed by the portal site computer 2 shown in FIG. 5;

FIG. 33 is a flow chart showing a utilization reservation information print processing following that

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## DETAILED DESCRIPTION OF THE INVENTION

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FIG. 1 is a view showing a system configuration of a printing service system according to the present embodiment. In FIG. 1, a printing service system 100 comprises a communication provider computer 1 for controlling communication with a plurality of portable terminals (information processing terminals) 3 via a

wireless communication network N and for connecting the portable terminals 3 to an internet S; a portal site computer (contents distributing apparatus) 2 connected to the internet S; the portable terminals (information processing terminals) 3 connected to the communication network N and having communication functions such as cellular telephones and PHS terminals; a plurality of information provider computers 4 connected to the internet S; an advertisement site proprietor computer 5; and printing stations (output devices) 6 installed at plural sites.

In FIG. 1, there is shown a case in which three portable terminals 3, two information provider computers 4, and print stations 6 installed at three sites are connected. The number of these computers or stations or the number of sites to be installed is not particularly limited. In addition, a plurality of advertisement site proprietor computers 5 may be connected.

The communication provider computer 1 provides communications environment concerning printing service among the portable terminal 3 connected to the communication network N and the portal site computer 2, the information provider computer 4, the advertisement site proprietor computer 5, and print station 6 connected to the internet S. This communication provider computer 1 controls data communication

procedures according to a communication request therebetween.

An outline of control functions of the portal site computer 2, portable terminal 3, information provider  
5 computer 4, advertisement site proprietor computer 5, and print station 6 that configure the printing service system 100 shown in FIG. 1, will be described with reference to FIG. 2 to FIG. 4.

FIG. 2 is a block diagram depicting an outline of  
10 control functions that the portable terminal 3 and information provider computer 4 have.

In FIG. 2, the portable terminal 3 comprises a member registration processing section 3A for executing member registration processing described later (refer  
15 to FIG. 20) and for providing an access to the portal site computer 2, thereby performing member registration processing for printing service; an E-mail function section 3B for receiving guidance of coupon or guidance of charge from the portal site computer 2 when printing  
20 service is utilized; and a utilization reservation processing section 3C for executing utilization reservation registration processing described later (refer to FIG. 23 and FIG. 24), thereby reserving utilization of printing service via the portal site  
25 computer 2 or directly via the information provider computer 4.

In FIG. 2, the information provider computer 4

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comprises a contents utilization guidance processing section 4A for, when the information provider computer 4 executes contents utilization guidance processing described later (refer to FIG. 26), and receives a user reservation ID of the portable terminal 3 reserved via the portal site computer 2, transmitting a link parameter relevant to such utilization reservation, thereby performing authentication of the user; and a contents file 4B for storing contents data concerning printing service.

FIG. 3 is a block diagram depicting an outline of control functions that the print station 6 and the advertisement site proprietor computer 5 have.

In FIG. 3, the print station 6 comprises a utilization reservation information print processing section 6A for executing utilization reservation information print processing described later (refer to FIG. 30 and FIG. 31) to provide an access to the portal site computer 2, and performing authentication processing of a user who has reserved utilization, utilization reservation information acquisition processing, processing for acquiring a contents history file and a print format file, contents and advertisement print processing, processing for computing an amount of money for coupon; a print format file 6B utilized by the utilization reservation information print processing section 6A; a contents

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file 6C, an advertisement contents file 6D, and a utilization reservation information file 6E.

The advertisement site proprietor computer 5 comprises an advertisement contents registration processing section 5A for executing advertisement contents registration processing described later (FIG. 35), creating advertisement contents in which a variety of utilization conditions are set, and registering them in an advertisement contents file 5B; and the advertisement contents file 5B utilized by the advertisement contents registration processing section 5A.

FIG. 4 is a block diagram depicting an outline of control functions that the portal site computer 2 has.

In FIG. 4, the portal site computer 2 comprises a member registration processing section 2A for executing member registration processing described later (refer to FIG. 21 and FIG. 22), thereby performing registration processing of member information according to a member registration request from the portable terminal 3; a member file 2B utilized by the member registration processing section 2A (refer to FIG. 8); a user authentication processing section 2C for performing reservation processing from the portable terminal 3 caused by executing user authentication processing described later (refer to FIG. 25), transmission of the user reservation ID to the information provider

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computer 4 and contents introduction processing, link  
parameter reception from the information provider  
computer 4 and utilization reservation processing or  
the like; and a utilization reservation information  
5 acceptance processing section 2D for performing link  
parameter acquisition processing from the user  
authentication processing section 2C by executing  
utilization reservation information acceptance  
processing described later (FIG. 27 and FIG. 28),  
10 setting processing of distribution contents and  
advertisement utilization contents based on the link  
parameters, and update processing of utilization  
reservation information or the like.

Further, the portal site computer 2 comprises a  
15 print contents generation processing section 2E for  
executing correlation of contents history from the  
information provider computer 4 by executing print  
contents generation processing described later (refer  
to FIG. 29) and contents download processing, print  
20 contents generation processing based on the  
distribution contents set by the utilization  
reservation information acceptance processing section  
2D and the contents of utilizing advertisement, and  
charge notification processing for the portable  
25 terminal 3 or the like; a utilization reservation  
information file 2F (refer to FIG. 9A) and a printing  
service unit price file 2G (refer to FIG. 9B) that are

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utilized by the utilization reservation information acceptance processing section 2D; and a print format file 2H (refer to FIG. 10A) and a contents history file 2I (refer to FIG. 10B) that are utilized by the print contents generation processing section 2E.

In addition, the portal site computer 2 comprises a utilization reservation information print processing section 2J for performing utilization reservation information transmission processing according to a utilization reservation information request from the print station 6 by executing utilization reservation information print processing described later (refer to FIG. 32 and FIG. 33) and update processing of user history contents utilization history and advertising history; a user history file 2K (refer to FIG. 11); a contents utilization history file 2L (refer to FIG. 12); an advertisement contents distribution processing section 2N for receiving advertisement contents according to an advertisement distribution request from the advertisement site proprietor computer 5 by executing an advertisement contents distribution processing described later (refer to FIG. 34), and discriminating a distribution area or advertising conditions or the like based on utilization conditions set in the advertisement contents to perform an advertisement contents distribution; and an advertisement contents file 2O utilized by the

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advertisement contents distribution processing section  
2N (refer to FIG. 14).

Now, a description will be given below to the  
internal configuration of each of the portal site  
computer 2, the portable terminal 3, the information  
provider computer 4, and the advertisement site  
proprietor computer 5 that configure the printing  
service system 100 shown in FIG. 1.

The portal site computer 2 comprises a CPU 21, a  
display section 22, an input section 23, an internet  
transmission control section 24, a RAM 25, a storage  
device 26, a storage medium 27, and a leased line  
transmission control section 28, as in the block  
diagram depicted in FIG. 5, and each section excluding  
the storage medium 27 is connected to a bus 29.

This portal site computer 2 comprises a portal  
site function associated with printing service. This  
portal site function sets a portal site page in a menu  
format, for example, in order to indicate to the  
portable terminal 3 the contents of printing service  
provided by the information provider computer 4 and the  
advertisement site proprietor computer 5 that are  
connected to the internet S; displays the portal site  
page for printing service on the portable terminal 3  
accessed via the communication provider computer 1;  
issues a one-time password for print reservation check  
in response to the contents of a printing service

request from the portable terminal 3.

That is, the portal site computer 2, as described above in an outline of control functions in FIG. 4, comprises the member registration processing section 2A; the user authentication processing section 2C; the utilization reservation information acceptance processing section 2D; the print contents generation processing section 2E; the utilization reservation information print processing section 2J; and the advertisement contents distribution processing section 2N. These control functions are achieved by the following program processing executed mainly in the CPU 21 incorporated in the portal computer 2.

The CPU (central processing unit) 21 executes member registration processing (refer to FIG. 21 and FIG. 22) in order to provide a member registration function for printing service to the portable terminal 3 accessed via the communications proprietor computer 1.

In this member registration processing, when a member registration menu is selected from the menu screen transmitted to an access request from the portable terminal 3, the CPU 21 transmits a member registration screen. Further, in the case where a new registration is selected from the member registration screen, the CPU 21 performs new registration processing of member information. In the case where modification of registration information is selected, the CPU 21

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reads the corresponding registration information, and perform modification according to the associated instruction.

In addition, the CPU 21 executes a user authentication processing (refer to FIG. 25) described later for a printing service reservation request from the information provider computer 4.

In this user authentication processing, the CPU 21 acquires a link parameter from the information provider computer 4. If a user reservation ID and a portable user ID is set in that link parameter, the CPU 21 performs authentication processing through a member file. If such user reservation ID and portable user ID is not set, the CPU 21 acquires a portable user ID from the communication provider computer 1, thereby performing authentication processing. Then, the CPU 21 acquires a user reservation ID from the member file, transmits link destination menu information on the utilization contents to the portable terminal 3, and links the user reservation ID as a parameter with a contents site selected by the portable terminal 3.

In addition, the CPU 21 executes a utilization reservation information acceptance processing described later (refer to FIG. 27 and FIG. 28) based on the link parameter acquired in the above user authentication processing.

In this utilization reservation information

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acceptance processing, the CPU 21 executes setting  
processing of distribution contents and advertisement  
utilization contents, update processing of utilization  
reservation information or the like based on the  
5 acquired link parameter.

In addition, the CPU 21 executes print contents  
generation processing described later (refer to  
FIG. 29) based on utilization reservation information  
updated in the above utilization reservation  
10 information acceptance processing.

In this print contents generation processing, the  
CPU 21 executes correlation of contents history from  
the information provider computer 4 and contents  
download processing based on the updated utilization  
15 reservation information; print contents generation  
processing based on the distribution contents and  
advertisement utilization contents set in the user  
utilization reservation information acceptance  
processing; and charge notification processing for the  
20 portable terminal 3 or the like.

In addition, the CPU 21 executes utilization  
reservation information print processing (refer to  
FIG. 32 and FIG. 33) described later according to a  
utilization reservation information request from the  
25 print station 6.

In this utilization reservation information print  
processing, the CPU 21 executes utilization reservation

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information transmission processing according to a utilization reservation information request from the print station 6 and update processing of the user history, contents utilization history, and advertising history or the like.

In addition, the CPU 21 executes advertisement contents distribution processing described later (refer to FIG. 34) according to an advertisement distribution request from the advertisement site proprietor computer 5.

In this advertisement contents distribution processing, the CPU 21 receives advertisement contents according to an advertisement distribution request from the advertisement site proprietor computer 5, and determines a distribution area or advertising conditions or the like based on the utilization conditions set in the advertisement contents, thereby distributing the advertisement contents.

Further, the CPU 21 executes advertisement contents registration processing described later (refer to FIG. 36) based on the advertisement contents transmitted from the advertisement site proprietor computer 5.

In this advertisement contents registration processing, the CPU 21 executes registration check processing and update processing based on the advertisement contents received from the advertisement

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site proprietor computer 5, and sets an amount of money for advertisement coupon, the classification of the user contents, limitation to putting an advertisement or the like relevant to the advertisement contents targeted for update.

The display section 22 comprises a CRT (cathode ray tube) display device and a liquid crystal display device or the like, and displays the screen based on display data inputted from the CPU 21.

The input section 23 comprises a keyboard including cursor keys, numeric input keys, and various function keys or the like; and a mouse that is a pointing device. The input section outputs a signal of a key pressed from the keyboard to the CPU 21, and outputs an operation signal by the mouse to the CPU 21.

The internet transmission control section 24 comprises a modem (modulator/demodulator), a terminal adapter, or router and the like. This control section 24 performs communication control for making communication with each of a plurality of the information provider computers 4, the information provider computer 5, and a plurality of the print stations 6 that are connected to the internet S.

The RAM 25 (random access memory) 25 comprises a program storage area for storing programs or a variety of application programs that are executed by the CPU 21 and a work area for temporarily storing an input

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command, input data, and processing results or the like.

The storage device 26 comprises the storage medium 27 for storing programs or data and the like in advance.

This storage medium 27 comprises a magnetic or optical

5 recording medium or a semiconductor memory. This

storage medium 27 is fixedly provided at the storage

device 26 or is removably mounted thereto. This

storage medium 27 stores a variety of application

programs corresponding to the portal site computer 2, a

10 member registration processing program, a user

authentication processing program, a utilization

reservation information acceptance processing program,

a print contents generation processing program, a

utilization reservation information print processing

15 program, an advertisement contents distribution

processing program, an advertisement contents

registration processing program, and data or the like

processed by each of these processing program.

In addition, an arrangement may be made such that

20 all or part of the programs, data and the like stored

in the storage medium 27 may be stored to be received

from the internet transmission control section 24 via a

transmission medium such as network line through

another device such as server or client's device.

25 Further, the storage medium 27 may be a storage medium

of a server constructed on a network. Furthermore, an

arrangement may be made such that the programs are

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transmitted to the server or client via a transmission medium such as network line, and are installed in these devices.

In addition, the storage medium 26 comprises a variety of memory areas associated with printing service. As shown in FIG. 4, the storage device 26 comprises the member file 2B, the utilization reservation information file 2F, the print service unit price file 2G, the print format file 2H, the contents history file 2I, the user history file 2K, the contents utilization history file 2L, the advertising history file 2M, and the advertisement contents file 2O.

The member file 2B stores member information by each user of the portable terminal 3 who utilizes printing service. The storage items, as shown in FIG. 8, comprises a member code, a user reservation ID, a portable user ID, a user ID (cellular telephone number), a password, name, gender, the date of birth, postal code, address, E-mail address, classification of occupation, classification of reasons for enrollment, introducer's cellular telephone number, the date of registration for enrollment, an amount of money for enrollment coupon, an amount of money for introduction coupon, an amount of money for advertisement coupon, an amount of money for survey coupon, the balance of utilization coupon, service charge for reservation printing, service charge for reservation information,

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an amount of money for coin entry during utilization,  
and an amount of money for the next transferred coupon.

Here, an amount of money for enrollment coupon is  
automatically set as service (an amount of money for  
5 bonus) provided to newly user-registered members during  
enrollment by means of the portal site computer 2. An  
amount of money for introduction coupon is an amount of  
money for coupon to be automatically added as service  
(an amount of money for bonus) provided to members who  
10 have introduced another member from the portal site  
computer 2 when one member has introduced another  
member.

In addition, an amount of money for advertisement  
coupon is an amount of money for coupon to be  
15 automatically added as service (an amount of money for  
bonus) provided to members from the portal site  
computer 2 in the case where advertisement contents are  
printed to contents subjected to printing services. An  
amount of money for survey coupon is an amount of money  
20 for coupon to be automatically added as service (an  
amount of money for bonus) provided to members from the  
portal site computer 2 in the case where one has  
participated in a questionnaire survey.

In addition, the utilization coupon balance  
25 indicates a total amount of money for the above  
enrollment coupon, introduction coupon, advertisement  
coupon, and survey coupon as an amount of money for

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coupon (an amount of money for balance) available for use in printing service.

5 A reservation printing service charge indicates a print cost of the utilization charges computed according to the contents of printing service accepted by members. A reservation information charge indicates an information providing cost of the utilization charges computed according to the contents of printed service accepted by members. These charges are  
10 displayed after being transmitted to the member's portable terminal 3 during reservation for printing service.

15 An amount of money for coin entry during utilization is such that an amount of money for insufficiency obtained by subtracting the utilization coupon balance from the utilization charge (reservation print service charge + reservation information service charge) computed according to the contents of printing service accepted by members is computed in units of  
20 100 yen. An amount of money for coin entry during this utilization is displayed after being transmitted to the member's portable terminal 3 during reservation for printing service.

25 The utilization reservation information file 2F stores printing service reservation information (contents printing reservation information). The storage items include, as shown in FIG. 9A, a member

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code, an information company ID, a contents URL, a classification of contents type, a contents name, an information service charge, a printing service charge, a printing medium (form) type, the number of printing surfaces, the number of prints, the number of copies, a continuous printing specification, an advertisement printing specification, and the date and time of reservation and registration.

The printing service unit price file 2G stores information on printing service unit prices during printing service. The storage items, as shown in FIG. 9B, include a printing medium code, a printing medium (form) type, the number of printable surfaces, a printing service unit price per form, the date and time of service unit price change, a service unit price after being changed, and the date and time of unit price registration.

The print format file 2H stores print format information during printing service. The storage items, as shown in FIG. 10A, include a member code, a printing medium code, a printing medium (form) type, the number of prints, the number of printing surfaces, the final number of surfaces on the current page, and the date and time when printing has been completed.

The contents history file 2I stores history information on contents provided through printing service. The storage items, as shown in FIG. 10B,

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include a contents history URL, a classification of contents type, a contents name, an information service charge, a specification of standard medium code, the number of standard printing surfaces, a limitation of age for contents utilization, a limitation of utilization of shops placed at station, the date and time of contents update, and the effective date and time of contents.

The user history file 2K stores utilization history information by each user of the portable terminal 3 who has utilized printing service. The storage items, as shown in FIG. 11, include a user member code, the date and time of utilization, an enrollment coupon charge, an introduction coupon charge, an advertisement coupon charge, a survey coupon charge, an utilization coupon balance, a reservation printing service charge, a reservation information service charge, an amount of money for coin entry during utilization, an amount of money for the next transferred coupon, and a utilization station code.

The contents utilization history file 2L stores utilization history information by each information provider computer 4 that provides the contents for printing service. The storage items, as shown in FIG. 12, include an information company ID, the year, month, and days of utilization, the date and time of utilization, a contents URL, a classification of

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contents type, the name of contents, an information  
service charge, a printing service charge, a printing  
medium (form) type, the number of printing surfaces,  
the number of prints, the number of printed copies,  
5 continuous printing specification, an advertisement  
printing specification, a utilization station code, and  
a user member code.

The advertising history file 2M stores utilization  
history information by each advertisement site  
10 proprietor computer 5 that provides the advertisement  
contents for printing service. The storage items, as  
shown in FIG. 13, include an advertisement company ID,  
the year, month and days of advertising, the date and  
time of putting an advertisement, an advertisement  
15 contents URL, a classification of advertisement  
contents type, the name of advertisement contents,  
advertising service charge, an amount of money for  
advertisement coupon, an advertisement printing medium  
(form) type, the number of advertising surfaces, the  
20 number of advertising copies, a utilization station  
code, and a user member code.

The advertisement contents file 20 stores  
information concerning advertisement contents for  
printing service. The storage items, as shown in  
25 FIG. 14, include an advertisement company ID, an  
advertisement contents URL, a classification of  
advertisement contents type, the name of advertisement

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contents, an advertising service charge, an amount of money for advertisement coupon, an advertisement printing medium (form) type, the number of advertising surfaces, the limited number of copies for putting an advertisement, the remaining number of advertising issues, the starting date and time of putting an advertisement, the closing date and time of putting an advertisement, an advertising area classification 1, an advertising area classification 2, an advertiser gender, a lower limit of advertiser's age, an upper limit of advertiser's age, the date of advertiser's birth, an advertiser's occupation classification 1, an advertiser's occupation classification 2, an advertiser's content 1, an advertiser's content 2, an advertising limitation area classification 1, an advertising limitation area classification 2, an advertising limitation shop classification 1, an advertising limitation shop classification 2, an advertising limitation contents type 1, an advertising limitation contents type 2, an advertising limitation contents company 1, and an advertising limitation contents company 2.

Now, a configuration of the portable terminal 3 shown in FIG. 1 will be described with reference to a block diagram depicted in FIG. 6. In FIG. 6, the portable terminal 3 comprises a CPU 31, a display section 32, an input section 33, a wireless

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communication control section 34, a RAM 35, a storage device 36, and a storage medium 37. Each section excluding the storage medium 37 is connected to a bus 38.

5           This portable terminal 3 incorporates a cellular telephone function, wherein printing service is made available by providing an access to the portal site computer 2 via the communication provider computer 1 through the communication network N.

10           That is, the portable terminal 3 comprises the member registration processing section 3A and the reservation processing section 3C as described above in an outline of control functions by referring to FIG. 1. These control functions are achieved by the following  
15           program processing executed mainly in the CPU 31 incorporated in the portable terminal 3.

          The CPU 31 develops a system program stored in the storage device 36 and an application program specified from among a variety of application programs  
20           corresponding to the system into a program storage region (not shown) provided in the RAM 35. The CPU 31 temporarily stores a variety of commands or data inputted from the input section 33 in the RAM 35, and executes a variety of processings in accordance with  
25           the application programs stored in the storage device 36 in response to these input commands and input data. Then, the CPU 31 stores the processing result in the

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RAM 35, and displays it on the display section 32.  
Then, the CPU 31 saves the processing result stored in  
the RAM 35 in a save destination provided in the  
storage device 36 instructed to be inputted from the  
input section 33.

In addition, the CPU 31 executes member  
registration processing described later (refer to  
FIG. 20) when printing service is made available by  
providing an access to the portal site computer 2 over  
the internet S via the communications provider computer  
1 through the communication network N wirelessly  
connected by means of the wireless communication  
control section 34.

In this member registration processing, the CPU 31  
is connected to a printing service site set at the  
portal site computer 2 over the internet S, receives  
the menu screen from the portal site computer 2, and  
displays it on the display section 32. When one makes  
a menu selection from the menu screen, the CPU  
transmits the contents of the selected command to the  
portal site computer 2. Then, the CPU 31 receives a  
member registration screen from the portal site  
computer 2.

In the case where a "modification mode" is  
selected from the member registration screen, the CPU  
31 checks user authentication by transmitting the  
inputted user ID and password to the portal site

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computer 2. Then, the CPU 31 receives a member information registration screen including registered member information, and prompts the user to modify and input the registered member information.

5 In addition, in the case where a "new registration mode" is selected from the member registration screen, the CPU 31 performs new user registration by transmitting the inputted user ID (cellular telephone number) to the portal site computer 2. Then, the CPU  
10 31 receives a member information registration screen, and prompts the user to input the member information.

Further, the CPU 31 executes reservation registration processing described later (refer to FIG. 23 and FIG. 24) in the case where printing service  
15 is reserved after member registration has been completed.

In this reservation registration processing, the CPU 31 provide an access to a portal site of the portal site computer 2 over the internet S, an official site  
20 of the information provider computer 4, or a general site of the information provider computer 4 via the communication provider computer 1 through the communication network N wirelessly connected by means of the wireless communication control section 34,  
25 thereby reserving utilization of the printing service.

In the case where an access is provided to a portal site of the portal site computer 2, the CPU 31

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receives a reservation information menu from the portal  
site computer 2, and displays the menu. Then, the CPU  
31 performs user authentication, and prompts the user  
to select contents. Then, the CPU 31 receives and  
5 displays the contents of utilization of printing  
service, and checks the print command. The CPU 31  
receives and displays a reservation check screen for  
further selected contents, and prompts the user to  
reserve and input the contents of printing reservation  
10 (the number of printing copies, printing medium (form),  
continuous printing, advertisement insertion print or  
the like). Then, the CPU 31 displays the printing  
reservation contents to be reserved and inputted by the  
user.

15 In the case where an access is provided to an  
official site of the information provider computer 4, a  
specific user ID assigned to the portable terminal 3 at  
such official site is automatically authenticated.  
Thus, the CPU 31 receives the contents of the official  
20 site information menu from the information provider  
computer 4, and displays it. After a desired printing  
information has been selected, the CPU 31 receives and  
displays the contents of utilization of printing  
service, and checks the print command. Then, the CPU  
25 31 receives a user authentication screen from the  
portal site computer 2, displays the screen, and  
executes member registration check. When such member

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registration is acceptably checked, the CPU 31 goes to contents reservation processing in a manner similar to the above. If the member registration is unacceptably checked, the CPU 31 goes to the above member

5 registration processing because new member registration is required.

In addition, in the case where an access is provided to a general site of the information provider computer 4, the CPU 31 receives a general site  
10 information menu from the information provider computer 4, and displays the menu. After desired printing information has been selected, the CPU 31 receives and displays the contents of utilization of printing service, and checks the print command. Then, the CPU  
15 31 receives a user authentication screen from the portal site computer 2, displays the screen, and executes member registration check. When such member registration is acceptably checked, the CPU 31 goes to contents reservation processing in a manner similar to  
20 the above. If the member registration is unacceptably checked, the CPU 31 goes to the above member registration processing because new member registration is required.

The display section 32 comprises a liquid crystal  
25 panel or the like. This display section 32 displays the screen based on display data inputted from the CPU 31.

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The input section 33 comprises a keyboard including cursor keys, numeric input keys, and a variety of function keys or the like; and a mouse that is a pointing device. This input section 33 outputs a signal of a key pressed from the keyboard to the CPU 31, and outputs an operation signal by the mouse to the CPU 31.

The wireless communication control section 34 comprises a wireless modem or the like. This communication control section 34 performs communication control for making wireless communication with the communications provider computer 1 connected to the communication network N.

The RAM 35 comprises a program storage area for storing programs executed by the CPU 31 or a variety of applications program and a work area for temporarily storing input data and processing result or the like.

The storage device 36 comprises the storage medium 37 in which programs or data and the like are stored in advance. This storage medium 37 comprises a magnetic or optical recording medium or a semiconductor memory. This storage medium 37 is fixedly provided at the storage device 36 or is removably mounted thereto. This storage medium 37 stores a variety of application programs corresponding to the portable terminal 3, a member registration processing program, a utilization reservation registration processing program, and data

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or the like processed by each of these processing programs.

In addition, an arrangement may be made such that all or part of the programs, data and the like stored in the storage medium 37 may be stored to be received from the internet transmission control section 34 via a transmission medium such as network line through another device such as server or client's device. Further, the storage medium 37 may be a storage medium of a server constructed on a network. Furthermore, an arrangement may be made such that the programs are transmitted to the server or client via a transmission medium such as network line, and are installed in these devices.

Now, a configuration of the print station (output device) 6 shown in FIG. 1 will be described with reference to the block diagram shown in FIG. 7. This print station 6 is placed at shop or the like, and provides printing service to the user of the portable terminal 3. The print station comprises a function for issuing a prepaid document for that printing service and a function for providing a service coupon caused by advertisement printing and the like.

In FIG. 7, the print station 6 comprises a CPU 61, a display section 62, an input section 63, an internet transmission control section 64, a RAM 65, a storage device 66, a storage medium 67, a printing device 68,

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and a coin entry device 69. Each section excluding the storage device 67 is connected to a bus 70.

5 The CPU 61 executes utilization reservation information print processing described later (refer to FIG. 30 and FIG. 31) in order to provide printing service to the user of the portable terminal 3 who has reserved printing of the above printing service.

10 In this utilization reservation information print processing, the CPU 61 displays a printing service menu. When one makes a utilization reservation printing menu selection, the CPU 61 prompts the user to input a user ID (cellular telephone number) and a password. The CPU transmits the inputted user ID (cellular telephone number) and password to the portal site computer 2, and  
15 executes authentication processing of the utilization reservation user.

When the utilization reservation user is authenticated, the CPU 61 acquires utilization reservation information from the portal site computer 2  
20 and displays the information. In the case where the coupon balance for the printing service is insufficient, the CPU 61 displays an amount of money for purchase required for utilization, and waits for coin entry.

When the CPU 61 checks the coin corresponding to  
25 such amount of money for purchase for entry into the coin entry device 69, the CPU 61 acquires a contents history file for utilization reservation information

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and a print format file from the portal site computer 2,  
and checks to see if advertising is specified. When  
the above advertising is specified, the CPU 61 further  
receives advertisement contents from the portal site  
5 computer 2. Then, the CPU 61 generates contents and  
advertisement contents print data in accordance with  
the print format file, and prints the data on its  
specified form through the printing device 68. Then,  
the CPU 61 displays a total amount of money for  
10 advertisement coupon that has been printed when it  
checks the completion of printing.

The display section 62 comprises a CRT display  
device, a liquid crystal display device or the like.  
This display section displays the screen based on  
15 display data inputted from the CPU 61.

The input section 63 comprises a touch panel  
configured integrally with the display screen of the  
display section 62; and a keyboard including numeric  
input keys and various function keys or the like. The  
20 input section 63 outputs a signal of a key pressed from  
the keyboard to the CPU 61, and outputs an operation  
signal by the mouse to the CPU 61.

The internet transmission control section 64  
comprises a modem, a terminal adapter, or router and  
25 the like. This control section 64 performs  
communication control for making communication with  
each of the portal site computer 2 connected to the

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internet S, the information provider computer 4, and the advertisement site proprietor computer 5.

5 The RAM 65 comprises a program storage area for storing programs executed by the CPU 61 and a variety of application programs and a work area for temporarily storing an input command, input data, processing result the like.

10 The storage device 66 comprises the storage medium 67 for storing programs, data and the like in advance. This storage medium 67 comprises a magnetic or optical recording medium or a semiconductor memory. This storage medium 67 is fixedly provided at the storage device 66 or is removably mounted thereto. This storage medium 67 stores a variety of utilization reservation information print processing programs corresponding to the print station 6 and data or the like processed by each of these processing program.

15 In addition, the storage device 66 comprises a variety of memory areas associated with printing service. As shown in FIG. 4, the storage device 66 comprises the print format file 6B, the contents file 6C, the advertisement contents file 6D, and the utilization reservation information file 6E.

20 In addition, an arrangement may be made such that all or part of the programs, data and the like stored in the storage medium 67 may be stored to be received from the internet transmission control section 64 via a

transmission medium such as network line through another device such as server or client's device. Further, the storage medium 67 may be a storage medium of a server constructed on a network. Furthermore, an arrangement may be made such that the programs are transmitted to the server or client via a transmission medium such as network line, and are installed in these devices.

The printing device 68 comprises a color print mode and a monochrome print mode in which a variety of printing forms (a plain paper (A4 and A3), a refill of a notebook (B6), an elongated paper, a sticker (2 × 4), a trading card, a post card, a prepaid document form or the like) is available. During utilization reservation information print processing executed by the CPU 61, the printing device 68 prints print data inputted from the CPU 61 to a printing medium and ejects the printing medium.

In addition, the printing device 68 prints advertisement print data inputted from the CPU 61 on a vacant space of the printing medium by means of utilization reservation information print processing executed by the CPU 61.

When an amount of money (fare-adjusted amount of money) for purchase required for utilization of printing service is displayed, the coin entry device 69 comprises a function that identifies and counts a coin

entered by the user (for example, a 100 yen coin) by means of the utilization reservation information print processing executed by the CPU 61, and then, notifies the count value to the CPU 61.

5           The configuration and functions of each of the information provider computer 4 and advertisement site proprietor computer 5 have been described in the schematic configuration shown in FIG. 2 and FIG. 3. An illustration and description of its internal  
10           configuration will be omitted here.

Now, an operation according to the present embodiment will be described here.

First, the member registration processing (FIG. 21) executed at the portable terminal 3 will be  
15           described with reference to a flow chart shown in FIG. 20.

At the portable terminal 3, when the user instructs an access to a portal site, the CPU 31 starts member registration processing (FIG. 21) shown in  
20           FIG. 20, and makes connection to the portal site computer 2 via the communication provider computer 1 from the communication network N wirelessly connected by means of a wireless communication control section 34. Then, the CPU receives a portal site menu screen from  
25           the portal site computer 2, and displays the menu on the display section 32 wherein a printing service site that exists on the portal site menu makes a selection.

In FIG. 20, the CPU 31 first makes connection to a printing service site at which the portal site computer 2 is established at the internet S (step P1). Then, the CPU 31 receives a printing service menu screen from the portal site computer 2, and displays the printing service menu as shown in FIG. 15A, for example (step P2).

Next, the CPU 31 determines whether or not a menu item is selected on the displayed printing service menu "1. Member registration" (step S3). In the case where another printing service menu is selected, it goes to the thus selected other processing. In the case where "1. Member registration" is selected, the selected contents are transmitted to the portal site computer 2 (step P4).

The CPU 31 receives a member registration screen as shown in FIG. 15B, for example (step P5). In this case, "1. Member registration" or "2. Modification of registration information" can be selected as a menu item.

The CPU 31 transmits a menu item number 1 or 2 selected on the member registration screen to the portal site computer 2 (step P6). Then, the CPU 31 determines whether or not "2. Modification of registration information" has been selected (step P7).

In the case where "2. Modification of registration information" is selected, the CPU 31 prompts the user

to input a user ID (cellular telephone number) and password, and transmits the inputted ID and password to the portal computer 2 (step P8). Then, the CPU 31 waits for user authentication check from the portal  
5 site computer 2 (step P9). In the case where user authentication check is NG, the CPU 31 displays an error (step P10). Then, the CPU 31 returns to the step P3. In the case where user authentication check is OK, it goes to the step P14.

10 In the case where "1. Member registration" is selected, the CPU 31 prompts the user to input a user ID (cellular telephone number), and transmits the inputted ID to the portal site computer 2 (step P11). Then, the CPU 31 waits until the presence or absence of  
15 "registered" has been received from the portal site computer 2 (step P12). If "registered" is received, the CPU 31 displays an error (step P13), and terminates this processing.

If new registration is received instead of such  
20 "registered", the CPU 31 receives a member information registration screen from the portal site computer 2, and displays a member registration screen as shown in FIG. 15C and FIG. 15D, for example (step P14). Then, the CPU 31 displays and inputs a cellular telephone  
25 number, a password, an E-mail address, name, address, and the date of birth (steps P15 to P17). Then, the CPU 31 inputs and selects a postal code, address, and

classification of occupation (step P18). The CPU 31 further inputs and selects classification of reasons for enrollment into printing service (step P19).

5 During password input, as shown in FIG. 15C, the "\*\*\*\*\*" is displayed to ensure security.

When inputs concerning member information at the foregoing steps P15 to P19 have been terminated, the CPU 31 transmits a variety of inputted information to the portal site computer 2 (step P20). Then, the CPU  
10 31 checks to see if the selected classification of reasons for enrollment into printing service is "introduction from the existing member" (step P21).

If the classification for reasons for such enrollment is not "introduction from the existing  
15 member", the CPU 31 goes to step P26. When the above classification is "introduction from the existing member", the CPU 31 prompts the existing member to input his or her user ID (phone number) (step P22). Then, the CPU 31 transmits the thus inputted user ID to  
20 the portal site computer 2 (step P23), and waits until the check result has been received from the portal site computer 2 relevant to the existing member (step P24).

When the check result of the existing member has been received from the portal site computer 2, the CPU  
25 31 determines whether the check result is OK or NG (step P25). If it is NG, the CPU returns to step P19 at which the classification for reasons for enrollment

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15

25

portable terminal 3 (step S3). Then, the CPU 21 determines whether the selection is a modification mode or a new member registration mode (step S4).

5 In the case of the modification mode, the CPU 21 acquires the input value of each of the user ID (cellular telephone number) and password transmitted from the portable terminal 3 (step S5). Then, the CPU 21 performs user authentication check by referring to the member data stored in the member file 2B (refer to  
10 FIG. 8) based on each input value (step S6). If the user authentication result is NG (step S7), the CPU 21 transmits the contents of error display to the portable terminal 3 (step S8), and returns to the step S2 at which a menu selection number is discriminated.

15 When the user authentication result is OK (step S7), the CPU 21 goes to the step S13.

At the step S4, in the case where a new member registration mode is selected, the CPU 21 acquires a user ID (cellular telephone number) transmitted from  
20 the portable terminal 3 (step S9). Then, the CPU 21 performs user ID registration check for the member file 2B (refer to FIG. 8) (step S10), and determines whether or not the user ID has been registered (step S11).

25 When the user ID exists (has been registered), the CPU 21 transmits the contents of error display to the portable terminal 3 (step S12). If the user ID is not registered yet, the CPU 21 determines whether or not



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existing member (phone number) transmitted from the portable terminal 3 (step S22). Then, the CPU 21 checks to see if the user ID of the existing member has been registered in the member file 2B (refer to FIG. 8) (step S23), and checks to see if such person is the existing member (step S24).

If the above person is not the existing member, i.e., NG, the CPU 21 transmits the fact to the portable terminal 3 (step S25). Then, the CPU 21 returns to the step 20 at which the classification of reasons for enrollment is acquired. When the person is the existing member, i.e., OK, the CPU 21 transmits the fact to the portable terminal 3 (step S26).

Next, the CPU 21 acquires the introducer's mail address from the member file 2B (step S27), adds a correlation coupon (an amount of money for bonus) to the introducer's coupon balance (step S28), and goes to step S29. In this case, an amount of correlation coupon is predetermined, for example, 100 yen.

At the step S21, in the case where the acquired classification of reasons for enrollment is not "introduction from the existing member", the CPU 21 updates the member file 2B based on the information acquired at the steps S16 to S20. The CPU 21 transmits the contents of the acquired member registration information to the portable terminal 3 (step S30), and adds an enrollment coupon (an amount of money for

Then, the CPU 21 transmits enrollment rules and  
5 guidance of such enrollment coupon to the enrolled  
person via E-mail (step S32), transmits acknowledgment  
to introduction and guidance of the introduction  
coupon via E-mail (step S33), and terminates member  
registration processing (FIG. 21).

15           At the portal site computer 2, an enrollment  
coupon (an amount of money for bonus) is automatically  
assigned as an enrollment privilege to the enrolled  
user of the portable terminal 3. In the case where the  
reason for enrollment is introduction from the existing  
20 member, the introduction coupon (an amount of money for  
bonus) is added as an introduction privilege to the  
existing member being an introducer that has introduced  
a newly enrolled user.

According to such system, in the printing service  
25 system 100 of the present embodiment, enrollment of new  
members, introduction to new members or the like can be  
promoted, and utilization of the member printing

service can be promoted.

Now, the utilization reservation registration processing of printing service executed at the portable terminal 3 will be described here with reference to the flow charts shown in FIG. 23 and FIG. 24.

The user of the portable terminal 3 can employ access methods for registering the utilization reservation for printing services. The above access methods include providing a direct access to the portal site computer 2 that provides printing service, thereby causing a link, and providing an access to an official site or a general site that the communication provider computer 1 provides over the internet S, thereby causing a link with printing service.

At the portable terminal 3, when the user instructs an access to the site over the internet S, the CPU 31 accesses to a site instructed via the communications provider computer 1 through the communication network N wirelessly connected by means of the wireless communication control section 34, and starts utilization reservation registration processing shown in FIG. 23.

In FIG. 23, the CPU 31 first determines whether the type of site linked by providing an access over the internet S is a "portal site", a "communications provider's official site", or a "communications provider's general site" (step P31).

In the case where the portal site is linked, the CPU 31 receives a print utilization reservation information menu from the portal site computer 2 (step P32), and displays a print utilization reservation information menu screen (not shown).

Next, the CPU 31 receives from the portal site computer 2 the user authentication result obtained by the user ID (cellular telephone number) transmitted to the portal site computer 2 during linkage and checks the thus received result (step P33). If the user authentication result is NG, the CPU displays an error (step P34), and terminates this utilization reservation registration processing.

In the case where the user authentication result is OK, the CPU 31 receives from the portal site computer 2 the contents (information) corresponding to the menu item selected from the print utilization reservation information menu screen, and displays the contents selection screen (step P35).

An example of the contents selection screen display is shown in FIG. 16A. This example of the contents selection screen display indicates a case in which the "part-time job" information search screen is displayed.

Next, the CPU 31 determines whether or not the user's desired printing information has been selected from the displayed contents selection screen (step S36),

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5 information to the portal site computer 2. After the  
CPU 31 has received the contents of utilization of  
printing service from the portal site computer 2 and  
has displayed them, the CPU 31 waits for the user to  
make a selecting operation for the print button (steps  
10 P37 and P38). In the case where a return button is  
selected instead of the print button, the contents  
selection screen at the step S35 is displayed again.

15 to the portal site computer 2, receives a user authentication screen from the portal site computer 2, and displays the screen (step P39). Then, the CPU 31 goes to the step P56 shown in FIG. 24.

20 "communication provider's official site" is linked  
after being accessed over the internet S, the CPU 31  
receives an official site information menu from the  
communication provider computer 1, displays the menu,  
and waits for menu item selection (step P40).

25           At this time, the communications provider computer  
1 links with the portal site computer 2 that provides  
printing service via the internet S. Thus, the

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computer 1, and has displayed them, the CPU 31 waits for the user to make a selecting operation for the print button (steps P43 and P44). In the case where the return button is selected instead of the print button, the official site information menu screen at the step P40 is displayed again, and the CPU 31 waits for menu item selection.

In the case where the print button is selected, the CPU 31 transmits the print command information to the communication provider computer 1. Then, the CPU 31 receives a user authentication screen from the portal site computer 2 linked with the communication provider computer 1, and displays the screen (step P45). The CPU 31 determines whether the user is the existing member or a new member through member check (step P46). When the user is a new member, the CPU 31 goes to the member registration processing (FIG. 21). When the member is the existing member, the CPU 31 goes to the step P56 shown in FIG. 24.

At the step P31, in the case where a "communications provider's general site" is linked after being accessed over the internet S, the CPU 31 receives the site information menu from the communication provider computer 1, displays the menu, and waits for menu item selection (step P47).

At this time, the communications provider computer 1 links with the portal site computer 2 that provides

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printing service via the internet S. Thus, the contents of the official site information menu comprises a printing service menu item.

When one makes such printing service menu  
5 selection, the CPU 31 transmits the selected menu information to the communication provider computer 1. Then, the CPU 31 receives from the communication provider computer 1 the contents of the selected official site information menu (the contents of  
10 printing service), and displays the contents selection screen (refer to FIG. 16A) (step P48).

At this time, the communication provider computer 1 transmits to the portable terminal 3 the contents of the official site information menu containing the  
15 contents of printing service received from the linked portal site computer 2.

Next, the CPU 31 determines whether or not the user desired printing information has been selected from the displayed contents selection screen (step P49),  
20 and continues displaying the contents selection screen at the step P48 until such desired printing information has been selected. When the desired printing information is selected, the CPU 31 transmits the selected information to the communication provider  
25 computer 1.

After the CPU 31 has received the contents of utilization of printing service from the portal site

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1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2

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Standard printing medium: Plain paper A4 (double-  
d)

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Next, the CPU 31 receives a print format selection screen (refer to FIG. 16C) from the portal site

computer 2, and displays the screen (step P58). The  
print format selection screen shown in FIG. 16C  
displays input items and selection items such as the  
number of copies, printing medium (form), multiple-side  
medium printing system, advertising print or the like.

Further, the print format selection screen shown  
in FIG. 16C displays a "reserve button" for confirming  
the contents of print format selection and a "cancel"  
button for canceling the contents of print format  
selection.

The CPU 31 causes the number of copies to be  
inputted in accordance with the display positions of  
the input items and selection items on the print format  
selection screen (step P59). The CPU 31 makes  
selection of printing medium (form) types that include  
plain paper A4 (double-sided), plain paper A4 (single-  
sided), bible version refill (tripe-sided), and  
miniature version refill (four-sided) or the like (step  
P60). Then, the CPU 31 makes a selection of continuous  
printing of multiple-sided media that comprises, for  
example, "continuous printing and page break by  
contents" (step P61). The CPU 31 makes a selection of  
whether advertisement insertion printing of the  
multiple-sided media is performed or not (step P62).

When all the contents of the above print format  
selections are inputted and selected, the CPU 31 checks  
a button operation for checking the contents of the

print format selection (step P63). In the case where the "cancel button" is operated, the CPU 31 returns to the utilization reservation check processing at the step P57. In the case where the "reserve button" is operated, the CPU 31 displays the contents of the print reservation on the printing reservation check screen (refer to FIG. 16D). Then, the CPU 31 transmits the printing reservation information to the portal site computer 2 (step P64), and terminates utilization reservation registration processing.

Now, the user authentication processing executed by the CPU 21 of the portal site computer 2 according to the utilization reservation registration processing executed at the portable terminal 3 will be described with reference to the flow chart shown in FIG. 25.

In FIG. 25, the CPU 21 first waits for link with a user authentication site from the portable terminal 3 (step S41). When the CPU 21 receives a link parameter from the linked portable terminal 3 (step S42), the CPU 21 checks to see if the user reservation ID and the portable user ID are set in the link parameter (steps S43 and S44).

When the user reservation ID and the portable user ID are set, the CPU 31 goes to the step S55 at which user authentication processing is performed by the member file 2B. If the user authentication check result is "new", the CPU goes to member registration

Next, the CPU 21 checks the user authentication result (step S50). If the user authentication result is NG, the CPU 21 transmits the fact to the portable terminal 3 (step S51). Then, the CPU 21 terminates user authentication processing. When the user

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the CPU 21 transmits an available shop guidance statement to the portable terminal 3 (step S67), and goes to the step S68. When the utilization limitation based on shop is OK, the CPU 21 goes to the step S68 shown in FIG. 28 immediately.

At the step S68, the CPU 21 transmits the printing service contents of the selected contents (name of contents, information service charge, printing service charge, standard medium, the number of printed pieces or the like) to the portable terminal 3.

Next, the CPU 21 acquires a selection (Utilize or Cancel) of utilization reservation transmitted from the portable terminal 3 according to the transmitted printing service contents (step S69), and performs utilization reservation checks based on such selection (step S70). In the case where "cancel" is selected, the CPU 21 terminals the utilization reservation information acceptance processing. In the case where "Utilize" is selected, the CPU 21 transmits a print format selection screen (refer to FIG. 16C) to the portable terminal 3 (step S71).

Then, the CPU 21 acquires the inputted number of copies transmitted from the portable terminal 3 according to the transmitted print format selection screen (step S72), and further, acquires selections of printing medium type (form) (plain paper A4 (double-sided), plain paper A4 (single-sided), bible version

refill (triple-sided), or miniature version refill (four-sided) or the like) (step S73).

Further, the CPU 21 acquires selections of continuous printing of a multiple-side medium  
5 transmitted from the portable terminal 3 (step S74). Then, the CPU 21 acquires selections of advertisement insertion printing of multiple-side medium (advertisement printing: Yes or No) (step S75), acquires print format selections (Reserve or Cancel),  
10 and checks the print format (step S76).

In the case where "cancel" is selected, the CPU 21 returns to the step S68 at which printing service contents are transmitted. In the case where "Reserve" is selected, the CPU 21 transmits the contents of  
15 utilization reservation accepted at the steps S72 to S75 to the portable terminal 3 (step S77). Then, the CPU 21 updates the contents of utilization reservation information in the user file contained in the utilization reservation information file 2F (refer to  
20 FIG. 9A) (step S78), and goes to print contents generation processing.

Now, the print contents generation processing executed by the CPU 21 of the portal site computer 2 will be described here with reference to the flow chart  
25 shown in FIG. 29.

In FIG. 29, the CPU 21 acquires the date and time of contents site update from the contents URL that the

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history file 2I, and acquires the number of prints  
(step S89).

5       Next, the CPU 21 computes a printing service  
charge from the number of prints acquired at the step  
S88 or step S89 and the printing service unit price by  
each of the printing media (forms) contained in the  
printing service unit price file 2G (refer to FIG. 9B)  
(step S90).

10       Then, the CPU 21 updates data such as the  
information service charge, printing service charge,  
and the number of prints or the like for the  
utilization reservation information in the utilization  
reservation information file 2F (refer to FIG. 9A)  
(step S91). The CPU 21 updates the reservation  
15       printing service charge, reservation information  
service charge, an amount of money for coin entry  
during utilization, and an amount of money for the next  
transfer coupon of the member contained in the member  
file 2B (refer to FIG. 8) (step S92).

20       Further, the CPU 21 updates the number of prints  
by print medium (form) for the member contained in the  
print format file 2H (refer to FIG. 10A) (step S93).  
Then, the CPU 21 notifies a guidance of utilization  
charge and the completion of preparation for printing  
25       service to the user of the portable terminal 3 via an  
E-mail (step S94), and terminates the print contents  
generation processing.

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FIG. 16E shows a display example of a guidance of utilization charge and the completion of preparation for printing service from the portal site computer 2 to the user of the portable terminal 3.

5           Now, the utilization reservation information print processing executed by the CPU 61 of the print station 6 will be described with reference to the flow chart shown in FIGS. 30 and 31.

10           In FIG. 30, the CPU 61 first displays a printing service menu (refer to FIG. 17A) through an access from the user of the portable terminal 3 who has reserved printing service (step T1), and checks the selected menu item (step T2).

15           If one has selected a menu item other than "utilization reservation printing", the CPU 61 goes to another processing corresponding to the selected item. If one has selected a menu item "utilization reservation printing", the CPU 61 displays the top menu screen of the utilization reservation printing service as shown in FIG. 17B. Then, the CPU 61 prompts the user to input the user ID and password, and acquires the inputted user ID and password (step T3). In this case, the user ID and password are inputted by keyboard operation of the input section 63 at the print station 20 6 or inputted by touch panel operation or the like.

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When the user inputs the user ID and password, the CPU 61 transmits the inputted data to the portal site

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When the CPU 61 receives the fact that the user authentication result is NG from the portal computer 2 (step T6), the CPU displays an error (step T7). When the CPU 61 receives the fact that the user authentication result is OK, the CPU 61 makes a request for transmitting a utilization reservation information file of the user authenticated for the portal site computer 2 (step T8), and waits until the utilization reservation information file has been received.

Next, the CPU 61 displays an item of the utilization reservation information generated based on the contents of the acquired member file and utilization reservation information file on the screen for displaying an amount of money for purchase as shown

in FIG. 17C (step T12). Then, the CPU 61 determines whether or not an amount of money for coin entry is required for the coupon balance that is the display item from a total of printing service charge and information service charge (step T13).

In the case of the screen for displaying an amount of money for purchase shown in FIG. 17C, the user's coupon balance is 250 yen, the printing service charge is 180 yen, and the information service charge is 200 yen. Thus, the coupon balance lacks 130 yen, requiring two 100-yen-coin entries.

Therefore, if coin entry is unnecessary, the CPU 61 goes to the step T18. At step T13, if additional coin entry is required as shown above, the CPU 61 displays an amount of money for coin entry required for the current printing service as shown in FIG. 17C, and waits for the user coin entry (step T14).

Then, the CPU 61 checks to see if there exists coin entry information from the coin entry device 69 and whether or not the "cancel" button is operated on the display screen in order to response to the user relevant to the displayed amount of money for coin entry (step T15). In the case where the "cancel" button is operated, the CPU 61 displays an error (step T16), transmits a "cancel" command to the portal site computer 2 (step T17), and terminates this utilization reservation information print processing. In the case



At this time, the CPU 61 displays the screen for  
25 displaying an amount of money for purchase shown in  
FIG. 17C, and then, displays the contents printing  
screen as shown in FIG. 18A.

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and reduces equipment cost.

In addition, in the case where the contents of a print error is received after NG has been notified from the printing device 68, the CPU 61 displays an error recovery command corresponding to the contents of such  
5 print error, instructs the user to arrange the shop for error recovery, and checks the result of the print error recovery (step T27).

When the print error recovery result is OK, the  
10 CPU 61 returns to the step T23 at which the CPU 61 outputs print data, and waits until printing has been completed. If the print error recovery result is NG, the CPU 61 transmits the notification of print error to the portal site computer 2 (step T28). Then, the CPU  
15 61 displays an error message (for example, "print error has occurred.") at the display section 62 (step T29), and terminates the utilization reservation information print processing.

FIG. 19 shows a modification example of a printing  
20 medium in the case where a print format has been changed in the above utilization reservation information printing processing. In FIG. 19, there is shown an example when the contents oriented to A4-size plain paper has been changed to those oriented to a  
25 refill of a notebook (B6). At the print station 6, contents printing medium conversion processing is executed according to a command for changing the

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printing method.

Now, the utilization reservation information print processing executed by the CPU 21 of the portal site computer 2 according to the utilization reservation information print processing at the print station 6 will be described below with reference to the flow charts shown in FIG. 32 and FIG. 33.

In FIG. 32, the CPU 21 first waits for a user authentication request from the print station 6 (step S101). When the CPU 21 receives the user authentication request from the print station 6, the CPU 21 performs terminal authentication processing of the print station 6 (step S102). That is, it is checked as to whether or not the print station 6 is registered as a printing service terminal.

Next, the CPU 21 acquires the user ID and password of the user of the portable terminal 3 transmitted from the print station 6 (step S103). Then, the CPU 21 executes user authentication processing by referring to the member file 2B (refer to FIG. 8) (step S104).

Next, the CPU 21 checks the user authentication result (step S105). If the user authentication result is NG, the CPU 21 transmits the fact to the print station 6 (step S106), and terminates the utilization reservation information print processing. If the user authentication result is OK, the CPU 21 transmits the fact to the print station 6, and waits until a request

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for transmitting the utilization reservation information has been received (step S107).

When the CPU 21 receives the request for transmitting the utilization reservation information from the print station 6, the CPU 21 checks to see if a utilization and/or reservation information file of the authenticated user is present by referring to the utilization reservation information file 2F (refer to FIG. 9A) (steps S108 and S109).

10           If the utilization reservation file of the  
authenticated user is absent, the CPU 21 transmits  
utilization error information to the print station 6  
(step S112), and terminates the utilization reservation  
information print processing. When the utilization  
15 reservation information file of the authenticated user  
is present, the CPU 21 checks to see if the utilization  
terminal limitation information contained in a  
utilization reservation information file is present  
relevant to the print station 6 to be currently  
20 utilized by referring to the contents history file 2I  
(refer to "station shop utilization limitation" shown  
in FIG. 10B) (steps S110 and S111).

If the utilization terminal limitation has been already set, and if the check result is NG, the CPU 21 transmits the utilization error information to the print station 6 (step S112), and terminates the utilization reservation information print processing.

Alternatively, if the utilization terminal limitation is not set, and if the check result is OK, the CPU 21 transmits the utilization reservation information file of the authenticated user and the member file to the print station 6 (step S113).

Next, the CPU 21 waits until the CPU 21 has received a request for transmitting the contents history file and print format file to be transmitted from the print station 6 (step S114). When the CPU 21 receives the transmission request, it determines whether the content of request is "OK" or "cancel" (step S115).

Then, when the content of request is OK, the CPU 121 transmits the contents history file and print format file to the print station 6 (step S116 shown in FIG. 33). If it is "cancel", the CPU 21 terminates utilization reservation information print processing.

Then, the CPU 21 determines whether or not advertisement printing is specified for the utilization reservation information file (step S117). If such advertisement printing is not specified, the CPU 21 goes to the step S120, and requests the advertisement contents distribution processing (refer to FIG. 34) for the advertisement contents by the number of advertising prints, user attribute, distribution area, or classification of contents (step S118).

The CPU 21 computes an amount of money for coupon

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of the advertisement contents received from the advertisement site proprietor computer 5 by means of advertisement contents distribution processing, and transmits an amount of money for such coupon and the advertisement contents to the print station 6 (step S119).

Next, the CPU 21 waits until the CPU 21 has received the notification of the completion of printing transmitted from the print station 6. When the CPU 21 receives the notification of the completion of printing, it determines whether the completion of printing is OK or NG (step S121). If the notification of the completion of printing is NG, the CPU 21 terminates the utilization reservation information print processing. When it is OK, the CPU 21 adds an amount of money for advertisement coupon to the coupon balance of the member contained in the member file 2B (refer to FIG. 8), and updates the utilization reservation information file (step S122).

The CPU 21 updates the user history information on the member in the user history 2K (refer to FIG. 11) (step S123). Then, the CPU 21 updates the utilization history information on the contents contained in the contents utilization history file 2L (refer to FIG. 12) (step S124). Further, the CPU 21 updates the advertising history information on the advertisement contents contained in the advertising history file 2M

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(refer to FIG. 13) (step S125), and terminates the utilization reservation information print processing.

Now, the advertisement contents distribution processing executed by the CPU 21 of the portal site computer 2 when a request for advertisement contents distribution processing is made during the utilization reservation information print processing will be described here with reference to the flow chart shown in FIG. 34.

In FIG. 34, the CPU 21 first waits until a request for distributing an advertisement contents file has been made by the utilization reservation print processing (step S201). Then, the CPU 21 checks to see if such distribution request is present (step S202).

When the distribution request is present, the CPU 21 acquires the advertisement contents conditions such as the number of advertisement contents pieces, user attribute, and classification of distribution area contents from the received information (step S203).

Next, the CPU 21 acquires one of the corresponding advertisement contents candidates from the advertisement contents file 20 (refer to FIG. 14) based on the acquired advertisement contents conditions (step S204). Then, the CPU 21 checks the remaining number of advertising issues and the validity period of advertising (step S205) and checks to see if the advertising is valid or invalid (step S206).



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previous advertising (step S209), and checks to see if the predetermined period of time is within the range of advertising history limitation or not (step S210).

5 When a predetermined period of time has not passed from the previous advertising and is within the range of advertising history limitation, the CPU 21 returns to the step S204, and acquires another one of the advertisement contents candidates from the advertisement contents file 20. If the predetermined period of  
10 time has passed and is within the range of advertising history limitation, the CPU 21 checks the advertisement contents advertiser contained in the advertisement contents file 20 from the user attribute (step S211), and checks to see if the user is out of the advertising  
15 target or not (step S212).

If the user is out of the advertising target, the CPU 21 returns to the step S204, and acquires another one of the advertisement contents candidates from the advertisement contents file 20. Otherwise, the CPU 21  
20 checks the areas targeted for advertising the advertisement contents contained in the advertisement contents file 20 from types of the distribution area contents (step S213), and checks to see if the area is out of the advertising target or not (step S214).

25 When the area is out of the above areas targeted for advertising, the CPU 21 returns to the step S204, and acquires another one of the advertisement contents

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candidates from the advertisement contents file 20.  
Otherwise, the CPU 21 transmits contents file  
information such as advertisement contents URL or an  
amount of money for advertisement coupon to the  
5 utilization reservation information print processing  
(FIG. 32 and FIG. 33) (step S215).

Next, the CPU 21 reduces one advertising issue  
of the advertisement contents contained in the  
advertisement contents file 20 (step S216). Then, the  
10 CPU 21 adds one to the number of advertisement contents  
candidates (the number of advertising issues) (step  
S217), and checks to see if the number of pieces  
requested for advertising is exceeded or not based on  
the number of the advertisement contents pieces (step  
15 S218).

If the requested number of advertising pieces is  
not exceeded, the CPU 21 returns to the step S204, and  
acquires another one of the advertisement contents  
candidates from the advertisement contents file 20.  
20 Otherwise, the CPU 21 terminates the advertisement  
contents distribution processing.

A description of a series of processings that  
achieves printing service in the present embodiment  
with reference to FIG. 20 to FIG. 34 has now been  
25 completed.

In the printing service system 100, therefore, the  
user of the portable terminal 3 can reserve the

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user's gender, the upper and lower limits of the user's age, the date of the user's birth, and classification of the user's occupation (step D4). Further, the computer 5 updates the advertisement contents file based on the inputted values (step D5), transfers the updated advertisement contents file to the portal site computer 2 (step D6), and terminates the advertisement contents update processing.

Now, the advertisement contents update processing executed by the CPU 21 of the portal site computer 2 according to the advertisement contents update processing at the advertisement site proprietor computer 5 will be described here with reference to the flow chart shown in FIG. 36.

In FIG. 36, the CPU 21 first waits for the reception of an advertisement contents file to be transmitted from the advertisement site proprietor computer 5 (step S301). When the CPU 21 receives the advertisement contents file targeted for update, the CPU 21 checks to see if advertisement contents are registered or not by referring to the advertisement contents file 20 (step S302).

If the advertisement contents are not registered, the CPU 21 returns to the step S301. When the advertisement contents are registered, the CPU 21 updates the advertisement contents file 20 by using the received advertisement contents file (step S303).

Then, the CPU 21 downloads advertisement contents from the advertisement contents URL (step S304); inputs advertising service charge and an amount of money for advertisement coupon (step S305), and sets the  
5 advertiser's contents classification of the advertisement contents (step S306).

Further, the CPU 21 inputs the area classification of limitation to putting an advertisement, classification of shops, contents type, and contents  
10 company that is a competitor of an advertiser (step S307). Then, the CPU 21 updates the advertisement contents file 20 based on the inputted values (step S308), and terminates the advertisement contents update processing.

As described above, in the printing service system  
15 100 according to the present embodiment, there is employed a charging system for coupon based printing service. Thus, electronic utilization coupons can be easily provided to members in order to promote the  
20 utilization of printing service. For example, there can be easily provided a utilization coupon for questionnaire or a utilization coupon for the advertising and the like.

In addition, the print station 6 employs a  
25 function for fare-adjusting the utilization coupon balance and 100-yen coin based charge. For example, there is employed a method for fare-adjusting the

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changes of 10 to 90 yen included in the membership registered utilization coupon as the next coupon balance. Thus, the change returning function can be eliminated, and service deterioration due to the shortage of changes can be prevented.

Further, in the printing service system 100 according to the present embodiment, a printing service utilization reservation limiting function can be set by the contents history file 2I (refer to FIG. 10B) during contents distribution. Thus, there can be provided the following utilization reservation limiting function that reflects the information provider's preference or the preference of a shop that places the print station 6.

(1) As a function for limiting the utilization reservation based on the contents user attribute, for example, there can be provided a function for limiting the utilization and reservation for the contents having an age limit based on the date of the member's birth.

(2) As a function for limiting the utilization reservation based on the preference of the shop that places a print station, for example, there can be provided a function for limiting the utilization reservation that is not suitable to visitors such as information on horserace prediction based on the preference of the fast food shop.

In addition, in the printing service system 100

according to the present embodiment, a function of advertising printing service based on contents distribution can be set. Thus, the following advertising services can be provided.

5           (1) As a function for advertising a pin-point advertisement for the advertiser's target based on the user attribute or locality, for example, there can be provided a function for putting an advertisement of commodities mainly targeted for high school girls only  
10           in the case where the users are such high school girls.

          (2) As a function for properly changing the contents of advertisement based on the user attribute or the locality or time intervals for printing service, for example, there can be provided a function for  
15           putting a commodity advertisement or coupon according to the user's gender by providing a men- or women-oriented advertisement.

          (3) As a function for instantiating a need through an advertisement meeting the next presumed  
20           potential need from the classification of print service contents, for example, there can be provided a function for putting an advertisement of housings or transport companies and the like according to the attribute of the user who has received rental information printing  
25           service.

Further, in the printing service system 100 according to the present embodiment, a function for

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applying limitation to putting an advertisement of  
printing service can be set during contents  
distribution by the advertisement contents file 20  
(refer to FIG. 14). Thus, the following functions for  
5 applying limitation to putting an advertisement can be  
provided.

(1) As a function for applying limiting to  
putting advertisement contents against the reference of  
the shop that places a printing station, for example,  
10 there can be provided a function for applying  
limitation to putting an advertisement such as  
associates or teashops in the case where a fast food  
shop places a printing station.

(2) As a function for applying limitation to  
15 putting advertisement contents against the contents  
provider's preference, for example, there can be  
provided a function for applying limitation to putting  
an advertisement of competitors to the contents  
provider or advertisement contents whose contents  
20 compete with each other.

(3) As a function for applying limitation to  
putting advertisement contents based on the user  
attribute, for example, there can be provided a  
function for applying limitation to putting an  
25 advertisement of tobacco shop, bottle shop or pachinko  
shop which legally limits purchase or utilization.

(4) A function for applying limitation to putting

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the same advertisement contents to the same user for a predetermined period of time can be provided.

Additional advantages and modifications will readily occur to those skilled in the art. Therefore,  
5 the present invention in its broader aspects is not limited to the specific details, representative devices, and illustrated examples shown and described herein. Accordingly, various modifications may be made without departing from the spirit or scope of the general  
10 inventive concept as defined by the appended claims and their equivalents. For example, if the print station 6 provides means for acquiring a cellular telephone number defined at the portable terminal 3 by utilizing wireless communication or infrared-ray communication  
15 such as IrDA, the user of the portable terminal 3 can eliminate an input of the cellular telephone number.

In addition, a system configuration of the printing service system 100 shown in the present embodiment is provided as an only example, and the  
20 types and number of portable terminals, the number of print stations, or setting locations can be changed arbitrarily.

According to the present invention, there is provided contents distribution type printing service  
25 via a network in which there is no limitation to a place at which contents are requested and a place at which the contents printout are received.

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